USERGUIDE

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Stratos C-email
User Guide

May 2008

STRATOS®

BEYOND THE HORIZON®

May 2008. This edition of the User Manual has been updated with information available at the date of issue. This edition supersedes all earlier versions of this manual. This publication has been compiled with the greatest possible care, but no rights may be derived from its contents.

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1 General Information

1.1 What is C-Mail?

The C-email service of Stratos allows Inmarsat-C users to send and receive e-mail messages and is a convenient alternative to telex. After registration at Stratos, land based Internet email users can send messages to mobile C-terminals while vessels can send to any email address without the need for registration.

Note: *The C-email service can be used in combination with other Stratos services: Data Reporting & Polling, FleetNet and SafetyNET. For more information visit our web site or contact our Customer Services Centre*.

1.2 About this manual

This manual explains:
- how to send e-mail messages from Inmarsat-C terminals to Internet email;
- how to send e-mail messages from Internet email to Inmarsat-C terminals;
- how to handle (optional) attachments

Note: *Sending attachments is not a standard feature. If you want this service, please indicate this on the application form or contact Customer Services.*

1.3 Updates of this manual

New features for the C-EMAIL service are constantly being explored. Updates of this manual can be found on our public web site, as well as StratosGateway customer portal or can be requested from our Customer Services Centre.

2 About C-email

Stratos C-email links the Inmarsat-C satellite network to Internet. Emails originating from email addresses that are registered in our gateway will be authenticated and forwarded. Messages of non-registered Internet users will be rejected. Inmarsat-C terminals are allowed to send and receive e-mail without prior registration.

Inmarsat-C users can send e-mail messages to any Internet address. Registration is not necessary. Send the message via Special Access Code EMAIL or 28 on LES X12 or X02, where X is the Ocean region:

- AORW 0
- AORE 1
- POR 2
- IOR 3

Email users can send messages to any Inmarsat-C terminal by sending to: 4xxxxxxxx@c12.stratosmoile.net on LES 12, or 4xxxxxxxx@stratosmobile.net on LES 02, where 4xxxxxxxx is the 9 digit Inmarsat-C Mobile Number. Prior registration at Stratos is required!

3 Things to Know before You Use C-email

3.1 Registration

- Internet users wishing to send e-mail from Internet to Inmarsat-C must first register for the service by completing the application for C-email on our website. Existing customers can also register online by selecting the option from our web site. You can register your email address specifically for C-email or you can request an Inmarsat-C Registered Username, allowing you to send from any email address.

Sending messages without being registered will result in a report indicating that the sender is not authorized to use the service. The message will be discarded. Registration forms can be obtained from our website or Stratos Customer Service.

- **C -terminal users** have access to C-email without prior registration. Mobile terminal users should realize that only Internet users who are registered for the Stratos C-email service can reply to their messages.

3.2 Billing and accounting

- Registered land-based Internet users will be billed directly for all their C-email traffic. Each bill is based on the message records of the registered e-mail address or registered username in the gateway. If a company has registered more Internet addresses a bill will be generated for each address.

- **For C-terminal owners** billing of C-email traffic originating from mobiles is executed in the normal way, either via the accounting authority, or via direct billing.

3.3 Charges

Charges for e-mail messages via the C-email service are in blocks of 256 bits or 32 bytes, where one byte (in 8-bit transparent data mode) is one character, carriage return, space or line feed.

Messages from Mobile will be charged based on the size of the message originally sent by the mobile. The original size will depend on the alphabet used by the mobile: ITA-2-Telex (5bits), IA5-ASCII (7 bits) or Transparent Data (8 bits).

Messages to mobile will be charged based on the size of the original message plus the LES header in case of sending the message in 5 or 7 bits. The LES header is not added and therefore not charged for messages sent to mobile in 8 bits.

Multiple Addresses - A message from mobile addressed to multiple Internet e-mail addresses will be charged only once. A message from an Internet e-mail address to multiple mobile destinations will be charged as many times as the number of mobiles addressed.

3.4 Software

For land-based Internet users no additional or dedicated software is required for access to C-email. As well, Inmarsat-C terminals may use the existing text editor provided by the terminal manufacturer.

3.5 Plain Text Format

In many e-mail programs HTML (or Rich Text Format) is the standard for formatting e-mail messages. The HTML or Rich Text format allows the sender to use all kind of layout features, to add pictures, change the font size, alignment etc. However, this layout information will increase the size of the message considerably and consequently increase the cost.

The C-email gateway will strip HTML before sending the message to the mobile terminal to avoid unnecessary costs. Because all layout information will be stripped off and the email message will arrive at the C-terminal in Plain Text Format it is advised to create them in Plain Text Format from the start.

To create e-mail messages in Plain Text Format consult the 'Help' function of your e-mail program. Appendix B contains some extra tips on this issue for Microsoft Mail Program users (e.g. Outlook). Further, to minimize the size of your message, try to avoid e-mail services that add unnecessary information to your messages, such as company related legal statements or advertisements.

3.6 Maximum Size of an E-mail Message

Be sure that the total size of an e-mail message does not exceed the maximum size of 32,000 bytes for a standard Inmarsat-C terminal. This is a generic technical limitation of the Inmarsat-C network and is the maximum size that can be transmitted using a standard Inmarsat-C terminal. The maximum message size for a mini-C terminal is 10,000 bytes. Larger messages will not be transmitted. When this occurs in the "to mobile" direction, Stratos will send a negative delivery notification to the e-mail originator.

To assist in the potential transmission of large messages in error, Stratos offers the option to limit the maximum message size that can be sent from a specific email address, domain or Registered User name. This option is selected at time of registration. The default value is 32,000 bytes.

3.7 Attachments

In the event of specific applications, Stratos offers the possibility to send attached files in your e-mail messages to mobiles. However, caution is required. Attachments such as Word or Word Perfect documents, Excel or graphic files can be quite large in size. Remember that charges are per 256 bits (= 32 bytes). To avoid high communication costs check the size of the attachment before you decide to send one. We recommend that attachments only be enabled for specific proprietary applications.

In the ship to shore direction, if the terminal selects 8-bit or data mode for transmission, the text message will arrive at the email destination as an attachment to the email. Most customers select 7-bit transmission from their terminal software options such that the text simply arrive in the body of the message.

3.8 Spam and Viruses

Stratos Internet environment has been equipped with spam and virus filters such that they will not be sent to the mobiles or to Internet addresses.

Some viruses, worms and spam will cause a message to be sent or copied to all addresses in the address book of the sender. If that happens and a message is unwillingly sent to Inmarsat-C mobiles, Stratos cannot distinguish whether the sender meant to send a message to a mobile or not.

In every case and in this last case in particular, the originator of the message is responsible for its own virus protection. Stratos will not refund costs made by the sender due to extra text or attachments added by viruses / worms / spam or other programs that cannot be detected as a virus themselves. The best protection to avoid unwilling attachments to be sent to mobiles is not to activate the "send attachment" option as explained in the previous section.

What happens when a virus is detected at the Stratos Internet server?

The Stratos Internet server will scan every message coming into Stratos platform(s). The scan applies to messages addressed to Stratos C-email service, as well as other Stratos services. Stratos will use best practices to eliminate the virus from the incoming message. If the message can be "repaired" (= the virus is eliminated without destroying the original message), the repaired message will be sent to the destination. Stratos will add a warning to the message indicating that a virus was detected and eliminated. The receiver will be advised to inform the sender of the virus. If the message could not be repaired, the destination will receive a message saying that the originator tried to send a message but that it was aborted due to a virus. Similarly to the previous case, the receiver will be advised to contact the originator to inform them of the virus.

Important Note: *The sender does not receive a notification on virus detection. The reception of a Positive Delivery Notification does not imply that the message was finally delivered as originally sent. Content eliminated while eliminating the virus will not be invoiced to the originating cause of the virus. The originator will pay for the extra "warning" text.*

3.9 Economic use of the C-email service

As mentioned in the sections above, the best way to keep satellite costs low is to send email in plain text format. Caution is also required for using the **'reply' facility** that on many e-mail packages sends back not just the response to a message but the original message as well. Avoid unnecessary satellite costs by making sure that the original text is deleted before sending the reply message.

4 Messages from Inmarsat-C to Internet

Every activated Inmarsat-C terminal is authorized to send messages to any Internet email address. Registration of mobile terminals for C-email is not necessary.

4.1 How to send an e-mail message?

Create your message with the text editor in your terminal software. The keywords TO, CC and SU start at left-hand side of a line. Like the addresses they may contain upper and lower case characters. A colon follows the keywords (:). The keyword Subject may be abbreviated to SU:

How to create an e-mail message: Type "to:" followed by the e-mail address on the first line. Next leave a blank line and continue with the message text. It should look like this:
TO: support@stratosglobal.com

Message text

E-mail messages to more than one address: To send a message to more than one addressee type again "to:" on the next line(s). A message to three addresses looks like this:
TO: support@stratosglobal.com
TO: sales@stratosglobal.com
TO: info@stratosglobal.com

Message text

Using "CC" (Carbon Copy) command: You may use the CC command to send copies. More Co's can be added on new lines.
TO: support@stratosglobal.com
CC: sales@stratosglobal.com
CC: info@stratosglobal.com

Message text

Using "SU" (subject) command Add the "SU" command as follows:
TO: support@stratosglobal.com
CC: sales@stratosglobal.com
CC: info@stratosglobal.com
SU: Stratos test Message

Message text

Other ways of multi addressing: Instead of entering different "TO:" and "CC:" commands more addresses can also be specified as shown below. The addresses should be separated with semi-colons (;).

Addresses should not be truncated. For more addresses, start a new line only after the semi-colon (;).
Note: one space after " : " or " ; " is allowed but not necessary.
TO: support@stratosglobal.com; sales@stratosglobal.com
CC: info@stratosglobal.com
SU: Stratos test Message

Message text

4.2 Sending an E-mail in 5 Bits

The ITA-2 Telex (5 bits) alphabet does not contain characters usually present in e-mail addresses such as @ (at), _ (underscore), etc.

In order to be able to send an e-mail in 5 bits mode, Stratos has developed a special convention. This method can be used with **all terminals that are able to send messages to SAC codes using 5 bits presentation**. For example the JRC mobile model JUE75C is not able to select 5-bits mode when addressing a message to a SAC code. In order to know whether your terminal can send messages in 5 bits mode to a SAC code, please consult the manual provided by the terminal manufacturer.

In order to send emails in 5 bits format from any mobile, users are requested to replace the special characters not available in the ITA-2 alphabet by a combination of characters that can be processed by our platform.

The list below contains the combination of characters to be used in case of the special characters:

Special Characters that can be used in the address (to, cc)

Special character	Description	Use this combination at the mobile instead of the special character
@	At-sign	(a)
%	Percentage	(p)
|	Vertical bar	(b)
_	Underscore	(u)

No other special characters are allowed in the address fields. These special characters are not allowed in the subject field. These combinations, if appearing in the body text, will not be translated into the special characters when the message is delivered to an Internet e-mail address.

Examples:

To send an e-mail to john_smith@yahoo.com, write the address as: John(u)smith(a)yahoo.com. Our Internet gateway will translate the address to the correct e-mail format.

Mandatory Rules for a successful e-mail from mobile in 5 bits:

1. All special characters work only as such [e.g. (a) is translated into @ when you send your messages in 5 bits. Do not use them when working in 7 or 8 bits!
2. Leave an empty line between the header (address with or without subject) and the body text (this is done by pressing enter).
3. As semicolon ";" is not a 5 bit character, you must use a comma "," to separate addresses in the fields To: and Cc:
4. In the fields To: and CC: you may use a space or a new line immediately before or after the separation character (in this case ",") between addresses.

Example:

Email to John_Smith@yahoo.com, to W.Williams@yahoo.com and to s.mes@hotmail.com with a cc to spare_parts@domain.com to be sent in 5 bits.

TO: john(u)smith(a)yahoo.com, w.williams(a)yahoo.com, s.mes(a)hotmail.com CC: spare(u)parts(a)domain.com

Possible errors and consequences:

If you forget to include part of the "special character" (e.g. you type (a instead of (a) or () instead of (u), etc.) in the To: or CC: fields, our Inmarsat- C platform will not recognize the rest of the address following the mistake. It will also ignore the addresses following the one where the mistake was made. Our platform will still send the message to the Internet but as being sent by …@relay1.station12.com or …@relay2.station12.com.

As this is a non-existent address, the mobile will receive a Negative Delivery Notification (NDN) indicating the email could not be delivered to this non existent address. In this case please send your message again and ensure you type the address correctly.

4.3 Transmission of the Message From a C-Terminal

After an e-mail message has been created on your Inmarsat-C terminal send it to Stratos special access code (SAC) 28 or EMAIL. Both SAC codes are available for Stratos LES IDs x12 and x02 all ocean regions.

Your message will arrive at the destination address as being sent by:

4xxxxxxxx@c.xantic.net when you use LES id 12 or by
4xxxxxxxx@stratosmobile.net when you use LES id 02

4xxxxxxxx is your 9 digit Inmarsat-C mobile number.

If an Inmarsat-C confirmation is requested, confirmation OK status only indicates that your message was forwarded to the Internet. This does not indicate that the message was successfully delivered via the Internet to the recipient. Even if the message is delivered to the mail-server it is uncertain if the addressee has checked their mailbox for new mail.

4.4 Creating a New Address

This example refers to Thrane & Thrane Capsat mobiles. Please refer to your terminal's manual if you use a different Inmarsat-C terminal. Additional instruction sheets are also available at our website.

- Go to "APPLICATIONS"
- Select "ADDRESSBOOK"
- Choose "NEW"
- Give name: EMAIL (or any other name you like)
- Enter special access code: EMAIL (or 28)
- Select type: SPECIAL
- Select presentation: 5, 7 or 8 bits

Note that if you select 8-bit format, messages will be received at the shore side as text attachments. This may be desirable for some customers using specific applications to receive emails, however most customers simply select 7-bit, to receive the text as normal email in the body of the message.

If your Inmarsat-C terminal is unable to accept alphanumeric Special Access Codes, you may use code 28 instead of EMAIL.

4.5 Delivery Notifications for Messages from Inmarsat-C

Positive delivery notification (PDN)

Asking for a PDN is of little value and the use of it is discouraged for the following reason. Sending a Request Confirmation will cause Stratos to return a Positive Delivery Notification, as soon as the C-email service has successfully forwarded the message to the Internet. The status of the message at the log-book of the mobile will change from "Delivered to LES" to "Delivered to end-user". However, this does not imply that the message was successfully delivered via the Internet to its final destination. The message could still fail if for example the recipient email address is incorrect or if their mailbox is full.

Positive delivery notifications are optional for the Inmarsat-C services. You can request this functionality when sending a message.

PDNs associated to a "collective message" (one message sent to several addresses)

If you send an email to several addresses, Stratos C-email service will copy your message into individual messages (one per address) before sending them to the final email destination(s). If you have requested a PDN for this message, the Stratos C-email service will generate a PDN per each email address. Each PDN will be sent to your mobile. However, your mobile will only change the status of the message once. It will not change the status "delivery successful" unless an NDN arrives (FYI: All Land Earth Stations using a Thrane & Thrane Internet gateway behave in this way). This means that your mobile will be charged for only one message and with as many PDNs as addresses included in the message header.

Note: *JRC terminals sending collective messages will behave different from other mobiles. The status of a message sent from a JRC mobile to only one email address will change from "Delivered to LES" to "Delivered to end-user" when the requested PDN arrives to the mobile. When a message is sent to multiple addresses, its status will remain as "Delivered to LES" and not change to "Delivered to end-user".*

Negative delivery notification (NDN)

Stratos Inmarsat-C service provides free-of-charge Negative Delivery Notifications (NDN) for messages sent to wrong / not available telex, fax, PSTN, PSDN (X.25) and Stratos mailbox destinations. It also provides a free-of-charge NDN for messages sent to a wrong SAC code / not available SAC code.

For Stratos C-email service, such an NDN could be provided to the mobile if, for instance, the mobile has selected the wrong SAC code (e.g. 29 instead of 28 or EMAIL as it should be for Stratos LES id's) or if our Stratos Internet Gateway is unavailable. When you receive such an NDN, Stratos is telling you that your message cannot be delivered to the Internet.

Such an NDN does not provide insight on whether the message has been finally delivered (or not) to the correct e-mail address. The notification providing this information is called UDI (Unsuccessful Delivery to Internet). See more details in next section.

A NDN created by Stratos Inmarsat-C platform will change the status of the message from "delivered" to "failed" at the log book of the Inmarsat-C mobile. A UDI is not an Inmarsat-C NDN but a normal message. A UDI does not change the status of a message at the logbook of the mobile.

Unsuccessful Delivery to Internet (UDI)

In most cases, you will be notified automatically if your message could not be forwarded to the Internet by the C-email service. However, a message successfully forwarded to the Internet does not mean that the Internet has managed to deliver it successfully to the final destination. Again in most cases, Internet providers notify the sender when they have not been able to reach the destination address.

For those cases when Stratos receives such a notification, a UDI (Unsuccessful Delivery to Internet) notification will be sent to the originating Inmarsat-C mobile indicating the following:

LES header & date
Message ref number xxxx to email address: aaaa@bbbb.ccc failed.
Address incorrect or unreachable.

The status of the message at the mobile will not change from "Delivered" to "Failed" as a result of a UDI. Please note that a UDI is not an Inmarsat-C NDN (Inmarsat-C NDNs have the property of updating the message status on the mobile).

There are many reasons for a non-successful delivery. Unfortunately, each Internet provider has a different description and/or lay out to announce the reasons behind the unsuccessful delivery. This makes it difficult for Stratos to provide a consistent Negative Delivery Notification other than the one shown above.

The most common reasons for unsuccessful deliveries are:

- Undeliverable message or delivery failed after xx attempts.
- Warnings message not delivered within xx hours or days.
- Message could not be delivered within xx days, so it will be deleted.
- Address non-existing; address incorrect; address not existing in public Name & Address book.
- Message did not reach following recipient aaa@bbb.ccc

4.6 Receiving Attachments on the Inmarsat-C Terminal

When a message sent from the Internet contains attachments, each attachment will be sent as an individual message in 8 bits presentation to the mobile terminal. The original message will be sent as a normal message announcing the attachment(s) plus as many messages as attachments.

The arriving message with the lower message reference number will have the headers, the text accompanying the attachment(s) and a line indicating the number of attachments following. The messages with higher reference numbers will contain the attachments.

Example:

Stratos LES 01-MAR-2007 00:26:48 717548
From: Customer Support (support@stratosglobal.com)
Subject: Test
1 attachment 9216 bytes, test.doc <<test.doc>>
Hello John, this is the test document
Regards, Bill

No announcement before attachment: no announcement will be sent to the mobile when the originator sends the message without body text and without subject (subject field empty and body part empty).

5 Messages from Internet to Inmarsat-C

Internet users wishing to send e-mail from Internet to Inmarsat-C mobiles should register at Stratos's C-email service. Registration forms can be obtained from our website or Stratos Customer Services. Sending messages without being registered will result in a report indicating that the sender is not authorized to use the service.

Existing customers may also use the electronic form online to add email addresses to their account.

5.1 Address information

In the address box of a message you should enter the address of an Inmarsat-C terminal in the following way. The domain you use depends on the Stratos LES to which you have registered your email address.

Inmarsat-C-ID@c12.stratosmobile.net for LES 12

Or

Inmarsat-C-ID@stratosmobile.net for LES 02

The Inmarsat-C ID must consist of nine digits and it always begins with 4.

Example of an e-mail address to an Inmarsat-C terminal

412345678@c12.stratosmobile.net

or

412345678@stratosmobile.net

After preparing your message, send it in the usual way via Internet. After the message is received at the gateway of Stratos the C-terminal will be located (i.e. correct ocean region) and the message will be delivered.

5.2 Authentication of Originator

Normally Stratos authenticates the email sender based on their email address. However, you can also choose to send emails from any email address, using a Registered Username and Password. Your emails will then be authenticated based on these two parameters placed on the first two lines of the message text. There is no extra cost, as these two extra lines will not be transmitted to the mobile.

Example 1: email sent using e-mail address authentication method.

To: 412345678@c12.stratosmobile.net
From: mary.smith@yahoo.com this **address should be registered at Stratos**
Cc: Subject: happy birthday
---
your text

Example 2: email using userid & password authentication:

To: 412345678@c12.stratosmobile.net
From: any email address
Cc:
Subject: happy birthday
---
userid:<your username>
password:<your password>
your text

Note: *If you are using this userid & password authentication method, send the message from an email address that has not also been registered for C-email before. If you cannot do this, please contact Stratos Customer Services to configure your email registration most effectively*.

5.3 Sending a Message in 5 Bits or in 8 Bits

Normally, a message will be sent in 7 bits format, unless your email server is always configured to send messages in 8 bits. You can force a message to be sent in 5 bits, 7 bits or 8 bits. To do so, you need to add a special parameter immediately at the beginning of the message before your text and also before username and password if you use that method.

To send a message in 5 bits the parameter is "al:telex" (al = alphabet). To send in 7 bits, the parameter is "al:text". To send in 8 bits the parameter is "al:data". This special parameter will be removed at the Land Earth Station and will not be sent to the mobile(s).

Example 1: email in 5 bits

To: 412345678@c12.stratosmobile.net
From: mary.smith@yahoo.com ***this address should be registered at Stratos***
Cc:
Subject: happy birthday
---
al:telex
your text

or

To: 412345678@c12.stratosmobile.net
From: any email address
Cc:
Subject: happy birthday
---
al:telex
userid:<your username>
password:<your password>
your text

Example 2: email in 8 bits

To: 412345678@c12.stratosmobile.net
From: mary.smith@yahoo.com ***this address should be registered at Stratos***
Cc:
Subject: happy birthday
---
al:data
your text

5.4 Using Customer Reference Numbers in the 'Subject' Box

Users sending many e-mails can use the subject box to enter a reference number or name with each message. The number or text in the subject box will be bounced back in the standard delivery notification. In this way the delivery notification will not only tell you when and to which C-terminal ID the message was delivered but also which message, particularly if you have sent more than one message to the same C-terminal.

5.5 Delivery Reports for Messages from Internet

Positive Delivery Notifications

The C-email gateway will always return a Delivery Notification indicating when and to which terminal ID the message was delivered. The text, which was entered in the 'subject' box, will also be returned.

Positive Delivery Notification as received by sender

Your message to <412345678@c12.stratosmobile.net
Subject: test 1
Arrived at the Stratos C-email service at Mon, Mar 26, 2007 12:28:42 UTC and was successfully delivered.
The Inmarsat reference number for your message is: 802058

Negative Delivery Notifications

In the following situations the Stratos gateway will automatically generate a Negative Delivery Notification:

Mobile terminal is logged in.

If the addressed C-terminal is logged-in properly, the LES (Land Earth Station) of Stratos accepts the message and will transmit it to the terminal. However in some cases the message cannot be delivered. This happens if the mobile terminal is switched off or if the mobile terminal has no clear sight to the satellite. The LES will try to deliver the message. If the first attempt is not successful, it will retry 6 times. If the last delivery attempt has failed the message will eventually be discarded and you will receive a Negative Delivery Notification.

Mobile terminal is logged out.

In this case the Land Earth Station knows the terminal cannot be reached and will not accept the message. A non-delivery notification will immediately be sent to the originator.

This illustrates the importance of logging out mobile Inmarsat-C terminals before they are switched off!

A Negative Delivery Notification could look like this

Your message to <412345678@c12.stratosmobile.net
Subject: test 1
Arrived at the Stratos C-email service at Mon, Mar 26, 2007 12:28:42 UTC and could not be delivered for the following reason:
Failed due to MES not available

*MES = Mobile Earth Station (Inmarsat-C terminal)

Note: *If a message has not been delivered to the C-terminal the message will not be charged*

APPENDIX A – Tips to Send an E-mail to a Mobile in Plain Text

All Inmarsat-C mobiles can receive and read directly on the screen messages originally sent in IA5-ASCII alphabet (7 bits).

A mobile will be able to receive messages sent in data mode (8 bits) depending on the model and whether it has previously received a message in 8 bits. Messages received on a mobile in data mode (8 bits) will be stored in the received log of the Inmarsat-C terminal but the message will not be printed automatically as it happens for messages in 7 or 5 bits.

In order to make sure that you send a message as Plain text in IA5-ASCII (7 bits) alphabet (and therefore that the message can be automatically printed when it arrives at the mobile) you may use one of the following two methods.

Method 1
Make sure that you select the format "Plain text" and Encoding "Unicode (UTF-7)" in your email program.

Method 2
Another solution to force a text to be sent in IA5-ASCII format (7 bits) is to add the words "al:text" on the first line of the body-text of your email.

Example:

To: 412345678@c12.stratosmobile.net
From: mary.smith@yahoo.com ***this address should be registered at Stratos***
Cc:
Subject: happy birthday
y ----------
al: text Happy birthday John
Love, Mary

About Stratos
Stratos is the world's trusted leader for vital communications. With more than a century of service, Stratos offers the most powerful and extensive portfolio of remote communications solutions including mobile and fixed satellite and microwave services. More than 20,000 customers use Stratos products and industry-leading value-added services to optimize communications performance. Stratos serves U.S. and international government, military, first responder, NGO, oil and gas, industrial, maritime, aeronautical, enterprise, and media users on seven continents and across the world's oceans. For more information visit www.stratosglobal.com.

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